

Remarks

Claims 1 to 30 have been cancelled and are replaced by new claims 31 to 106. Basis for the new claims can be found throughout the specification and drawings but particularly from the section of the specification from page 7, line 25 through to page 10, line 6 and figures 5, 6 & 9 of the drawings.

The new claims are considered to more clearly define the present invention and in a manner that renders it both novel and non-obvious having regard to the prior art references of record, particularly Gibson (US 6678264) for which the applicant is assignee.

The present invention is directed to establishing a first, lower level mesh of label switched (LSPs), i.e. Layer 1 paths/tunnels, between adjacent label switched routers (LSRs) in a communications network comprising a network of LSRs. It is then possible to establish a next, higher level (Layer 2) of LSPs where each Layer 2 LSP overlays a group of Layer 1 LSPs in such a manner that an end to end LSP across the communications network can be established from just a pair of the Layer 2 LSPs. The mesh of Layer 1 LSPs, the overlaid Layer 2 LSPs and the end to end LSP comprise what can be considered as a hierarchical arrangement of three levels of LSPs. This hierarchical arrangement is such that it requires only a small number of packets, namely four, to be prepended to a packet for the packet to self route on a hop by hop basis from one end of the communications network to the other. This is particularly advantageous in international networks comprising vast meshes of routers.

Gibson discloses a network comprising only the lowest level of LSPs which have static reservation. A route across the network is determined by interrogating an agent for each intervening node to determine possible routes and ranking these from best to worst. A path is then established by signaling along the route ranked as best.

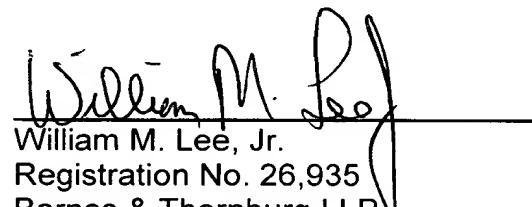
Consequently, Gibson does not teach arrangement of LSPs as a hierarchy of levels and does not teach the use of a sequence of labels that allows packets to self route on a hop by hop basis. In the case of Gibson, packets are switched by a signalled virtual connection being established.

It is apparent therefore that the present invention is novel having regard to the content of Gibson. It is also submitted that there is nothing in the teaching of Gibson that would lead a skilled addressee to the arrangement of the present invention.

Favorable consideration of the claims submitted herewith is requested.

July 13, 2004

Respectfully submitted,



William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 214-4800
(312) 759-5646 (fax)